

MassDEP Researches and Maps MA Wetlands



MassDEP uses research and technology to enhance our understanding of the complexity of wetland systems, which in turn, guides how we protect them.

MassDEP Wetlands Mapping

The MassDEP Wetlands Program, working in partnership with communities, academics, and other collaborators have spent over 25 years mapping our state's wetlands resources and using the information to conduct ecological research, develop new GIS modeling tools and assist permitting. MassDEP has a variety of existing maps that are available now for use on our website. There are also many new products underdevelopment as described below. These maps are important tools for implementing the Wetlands Protection Act. They help us to locate wetland resource areas in the state, determine the size and types of inland and coastal wetlands, and study the role of wetlands in our landscape. The following link provides a list of available wetland maps.

www.mass.gov/eea/agencies/massdep/water/watersheds/wetlands-protection.html#8



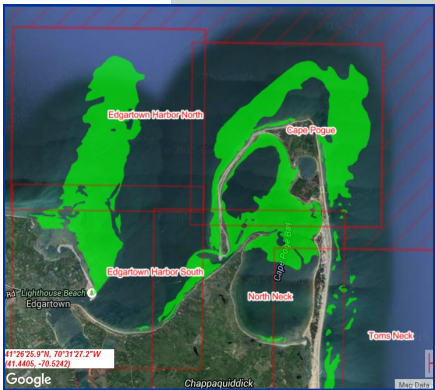
Available Soon: Wetlands Data Layer Update

The MassDEP Wetland Conservancy Program is preparing to release an update of the original GIS wetlands data layer that was based on 1990-2001 aerial photos. This updated data layer, based on 2005 photos, depicts existing wetlands, new and expanded wetlands, and wetlands that have been lost due to human activity. The new maps will be displayed on the MassDEP Wetlands Data Viewer <http://maps.massgis.state.ma.us/images/dep/omv/wetviewer.htm> and will be available for download at MassGIS in April 2016.

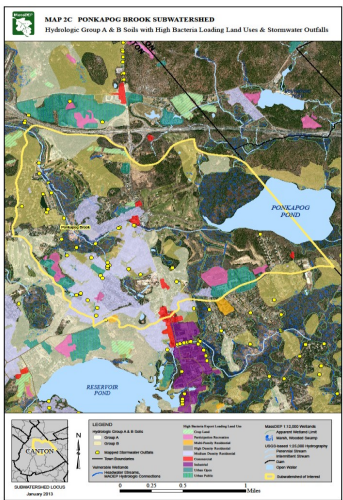
www.mass.gov/anf/research-and-tech/it-serv-and-support/application-

Available Soon: Updated Eelgrass Maps for the South Cape and Islands

The current MassDEP Eelgrass data layer is being updated with 2015 data from the South Cape and Islands and will be released in spring 2016. Eelgrass is important for sustaining waterfowl, providing habitat for fisheries, as substrate for shellfish, and as a crucial component of sediment and shoreline stabilization. Studies have linked nutrient enrichment and eutrophication in coastal waters to the decline of Eelgrass, and MassDEP is working to identify ways to better protect these resources. A detailed description of Eelgrass mapping and change analysis and the data viewer can be found at the MassDEP webpage. www.mass.gov/eea/agencies/massdep/water/watersheds/eelgrass-mapping-project.html Eelgrass mapping data layers can be obtained at: www.mass.gov/anf/research-and-tech/it-serv-and-support/application-serv/office-of-geographic-information-massgis/datalayers/massdep-eelgrass-project.html



Available Soon: How to Map Vulnerable Wetlands Video

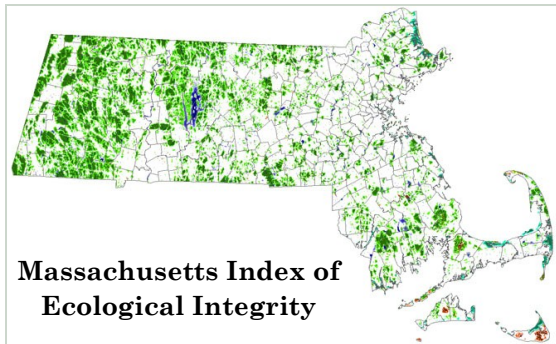


Vulnerable wetlands (VW) such as headwater streams and vernal pools are frequently lost or impacted due to anthropogenic development and stormwater runoff. Under an EPA Grant, MassDEP developed a methodology to protect and map VW's, and created maps for the Towns of Bellingham, Franklin, Stoughton, Walpole, Sharon and Canton. These maps describe how to identify and locate VW's for protection or restoration, provide technical assistance to communities seeking to comply with Federal and State stormwater requirements, and depict the proximity of stormwater delivery systems to VW's and impaired waters on the 303(d) list. The methodology for developing the maps is explained in a 30-minute, 6-part video, and can be followed by interested municipalities to create similar maps. The video is scheduled for release in the Spring of 2016 and will be available on the MassDEP website.

www.mass.gov/eea/agencies/massdep/water/watersheds/wetlands-protection.html

MassDEP Wetlands Monitoring and Assessment Program

The MassDEP Wetlands Program has collaborated with the University of Massachusetts at Amherst (UMass) and the Massachusetts Office of Coastal Zone Management (MCZM) since 2006 to develop a strategy to M&A wetlands for purposes of reporting on the status and trends of all wetlands across the state, and for developing criteria to M&A the physical, chemical and biological integrity of wetlands for reporting in the Section 305(b) Integrated Waters Report. Our goal is to better protect wetlands through regulation, policy & outreach. For further information see www.mass.gov/eea/agencies/massdep/water/watersheds/wetlands-protection.html#2 and www.umasscaps.org/ (Documents and Reports, and Applications).

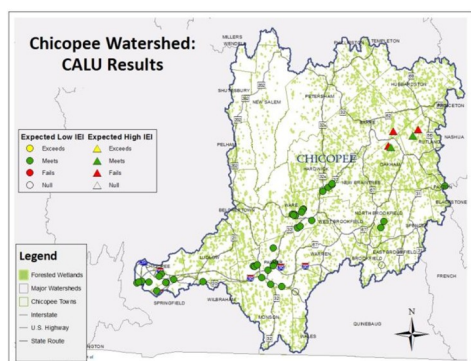


Available Soon: Wetland Replacement in Massachusetts Study

The UMass Research Bulletin 746/December 1998 entitled *Compensatory Wetland Mitigation in Massachusetts* ("the Brown and Veneman Report") found that the majority of wetland replication projects (54.4%) undertaken in MA were not in compliance with the Wetland Protection Act (WPA) regulations. In 2011 MassDEP obtained funding through an EPA Grant to study how well we are doing more than a decade later. This updated study, the result of several years of data collection and analysis followed a similar methodology to the Brown and Veneman Report. A total of 44 municipalities were randomly selected and 4700 Notices of Intent were reviewed that were filed between 2004 and 2008. Full field assessments were conducted for 79 sites where access was obtained, and data collected described plants, hydrology and soils. Results describe how many replacement areas required were actually built, and of those built, how many created wetlands, met size requirements, met all Wetland Protection Act performance standards and much more. The study is scheduled to be released this Spring and will be posted at www.mass.gov/eea/agencies/massdep/water/watersheds/wetlands-protection.html#2



Available Soon: Pilot Chicopee Watershed Monitoring and Assessment Study



In Spring of 2016, MassDEP will release a pilot study of forested wetland conditions in the Chicopee watershed to comply with Section 305(b) of the Clean Water Act. This study consists of a landscape level GIS-based assessment using the UMass Conservation Assessment and Prioritization System (CAPS) model, and a site condition assessment using Indices of Biological Integrity (IBI's) and a Continuous Aquatic Life Use (CALU) Framework. The CAPS assessment identifies the primary causes of degradation of forested wetlands as: loss of terrestrial and aquatic connectedness, loss of similarity, and the presence of non-native invasive plant species. The site condition assessment was conducted by sampling plants as indicators

of biological integrity at 45 sites across the watershed. The assessment found that 42 sites met expectations as predicted by the CAPS model however, most of those sites are highly stressed. Three sites predicted to have good condition "failed" expectations indicating unexplained stress. After further investigation, the cause of stress in two of the three cases appears to be due to natural causes (in this case beaver activity) that resulted in a transition of the plant community. The third site requires further investigation. The full report, including a list of plant species by site and discussion of which plants influenced the assessment will be available at:

www.mass.gov/eea/agencies/massdep/water/watersheds/wetlands-protection.html#2



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